

PATENT
674523-2022AMENDMENT

Please amend the application without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents as follows.

In the Claims

1. (Currently amended) A viral vector system comprising:

(i) a first nucleotide sequence ~~encoding~~ and a second nucleotide sequence, wherein the first nucleotide sequence encodes an external guide sequence capable of binding to and effecting the cleavage by RNase P of ~~the~~ [[a]] the second nucleotide sequence, or transcription product thereof, wherein the second nucleotide sequence encodes ~~encoding~~ a viral polypeptide required for the assembly of viral particles; and

(ii) a third nucleotide sequence encoding ~~said~~ a viral polypeptide required for the assembly of viral particles, which third nucleotide sequence has a different nucleotide sequence ~~to~~ than the second nucleotide sequence, such that the third nucleotide sequence, or transcription product thereof, is resistant to cleavage directed by the external guide sequence.

2. (Currently amended) ~~A system~~ The viral vector system according to claim 1, further comprising at least one further first nucleotide sequence encoding a gene product capable of binding to and effecting the cleavage, directly or indirectly, of ~~the~~ [[a]] the second nucleotide sequence, or transcription product thereof, ~~encoding a viral polypeptide required for the assembly of viral particles~~, wherein the gene product is selected from an external guide sequence, a ribozyme and an anti-sense ribonucleic acid.

3. (Currently amended) A viral vector production system comprising:

(i) a viral genome comprising at least one first nucleotide sequence ~~encoding~~ and a second nucleotide sequence, wherein the at least one first nucleotide sequence encodes a gene product capable of binding to and effecting the cleavage, directly or indirectly, of ~~the~~ [[a]] the second nucleotide sequence, or transcription product thereof, wherein the second nucleotide sequence encodes ~~encoding~~ a viral polypeptide required for the assembly of viral particles;

(ii) a third nucleotide sequence encoding ~~said~~ a viral polypeptide required for the assembly of the viral genome into viral particles, which third nucleotide sequence has a different nucleotide sequence ~~to~~ than the second nucleotide sequence such that said third nucleotide sequence, or transcription product thereof, is resistant to cleavage directed by said gene product;

PATENT
674523-2022

wherein at least one of the ~~gene products~~ gene product is an external guide sequence capable of binding to and effecting the cleavage by RNase P of the second nucleotide sequence.

4. (Currently amended) ~~A-system~~ The viral vector production system according to claim 3, wherein, in addition to an external guide sequence, at least one gene product is selected from a ribozyme and an anti-sense ribonucleic acid.

5. (Currently amended) ~~A-system~~ The viral vector system according to claim 1, wherein the viral vector is a retroviral vector.

6. (Currently amended) ~~A-system~~ The viral vector system according to claim 5, wherein the retroviral vector is a lentiviral vector.

7. (Currently amended) ~~A-system~~ The viral vector system according to claim 6, wherein the lentiviral vector is an HIV vector.

8. (Currently amended) ~~A-system~~ The viral vector system according to claim 5, wherein the polypeptide required for the assembly of viral particles is selected from gag, pol and env proteins.

9. (Currently amended) ~~A-system~~ The viral vector system according to claim 8, wherein at least the gag and pol proteins are from a lentivirus.

10. (Currently amended) ~~A-system~~ The viral vector system according to claim ~~[[7]]~~ 8, wherein the env protein is from a lentivirus.

11. (Currently amended) ~~A-system~~ The viral vector system according to claim 9, wherein the lentivirus is HIV.

12. (Currently amended) ~~A-system~~ The viral vector system according to claim ~~[[1]]~~ 3, wherein the third nucleotide sequence is resistant to cleavage directed by the gene product as a result of one or more conservative alterations in the third nucleotide sequence, which remove cleavage sites recognised by the at least one gene product and/or binding sites for the at least one gene product.

13. (Currently amended) ~~A-system~~ The viral vector system according to claim 1, wherein the third nucleotide sequence is adapted to be resistant to cleavage by RNase P ~~the at least one gene product~~.

14. (Currently amended) ~~A-system~~ The viral vector system according to claim 1, wherein the third nucleotide sequence is codon optimised for expression in producer cells.

PATENT
674523-2022

15. (Currently amended) ~~A system~~ The viral vector system according to claim 14, wherein the producer cells are mammalian cells.
16. (Currently amended) ~~A system~~ The viral vector system according to claim 1, comprising a plurality of first nucleotide sequences and third nucleotide sequences as defined in claim 1 therein.
17. (Currently amended) A viral particle comprising ~~[[a]]~~ the viral vector genome as defined in claim 3 and one or more third nucleotide sequences as defined in claim 3.
18. (Currently amended) A viral particle produced using ~~[[a]]~~ the viral vector production system according to claim 3.
19. (Currently amended) A method for producing a viral particle which method comprises introducing into a host cell (i) ~~[[a]]~~ the viral genome as defined in claim 3 (ii) one or more third nucleotide sequences as defined in claim 3 and (iii) nucleotide sequences encoding ~~the other~~ essential viral packaging components not encoded by the one or more third nucleotide sequences.
20. (Original) A viral particle produced by the method of claim 19.
21. (Currently amended) A pharmaceutical composition comprising ~~[[a]]~~ the viral particle according to claim 17, together with a pharmaceutically acceptable carrier or diluent.
22. (Cancelled)
23. (Cancelled)
24. (Currently amended) A method of treating a viral infection, comprising administering to a subject infected with a virus an effective amount of ~~[[a]]~~ the viral system according to claim 1.